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ABSTRACT

This guide was developed to serve both the novice and experienced starter in track and field events. Each year in the United States, runners encounter dozens of different starters' mannerisms as they travel to track meets in various towns and states. The goal of any competent and conscientious starter is to insure that all runners receive a fair and equal start for each race they run. There are four sections to this guide: (1) introduction; (2) history of starting; (3) techniques of starting; and (4) bibliography. Appendices contain checklists for field authorities, starter and recall starter's equipment, constructing starter holes, comparison of time and distance for meters and yards, and converting feet into meters. (JD)

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Track Starter's Guide

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DEDICATED TO THE
1984 OLYMPIC STARTING
TEAM

Ken Caouette, Warren Hollenback, Robert Reeves,
Louis NiCastro, Thomas Moore, Jerome Perry,
Walter Smith, Raymond Trotter,
Clarence Crawford, Ray Hendrickson, John McNichols,
Dan Reynolds and David Warner.

and to the
Memory of
Frank Bailey
and
Jack Milne

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American Alliance for Health, Physical
Education, Recreation, and Dance
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CHAPTER 1

INTRODUCTION

Each year in the United States, runners encounter dozens of different starters' mannerisms as they travel to track meets in various towns and states. This can lead to confusion on the part of the runners at the starting line, at a time when all actions and activities of the starter should be conducive to a calm atmosphere.

The goal of any competent and conscientious starter is to insure that all runners receive a fair and equal start for each race they run. The total atmosphere can be one of ease or one of confusion simply due to the approach of the starter at the starting line. The ability of the starter to take command and remain calm throughout the starting process helps relax the runners and make them feel confident in the starter's explanations and commands. Races should not be won or lost at the starting line, but at the finish line!

This guide has been developed to serve both the novice and the experienced starter and to share ideas and techniques that will create some standardization throughout the country.

It has been said that if the starter leaves the meet unnoticed, his or her job has been well done. All attention should be focused on the athlete. Track and field officials are there for one reason only: to conduct the meet in accordance with established rules and regulations, not to "showboat" or draw attention away from the competitors. The starter has a major responsibility to ensure that the position of starter is not used incorrectly.

Among the characteristics one must possess and develop to become a good starter are love for youth, love for the sport, patience, calmness, and a good sense of humor. Ken Caouette, one of the

head starters at the 1984 Summer Olympic Games, claims "a capable starter should possess an inherent quality which is hard to pinpoint...a 'fatherly,' caring feeling that the athletes seem to recognize." In other words, the starter should be relaxed and never try to overwhelm the competitors with his or her presence. He or she should always reflect a feeling that whether it is a junior high meet, Special Olympics, or a major international meet, this meet is the most important meet ever started, no matter the level of competition.

Sam Bell, veteran track and field coach of Indiana University, describes a good starter as one who is friendly, and creates confidence and relaxation in the athletes. He must have complete knowledge of the rules and maintain control, yet never lose compassion for the athletes.

CHAPTER 2

History of Starting

Introduction to the Ancient Methods of Starting Foot Races

"The ancient runners had a standard method of starting, of which the various surviving representations depict only a single stage, which is clearly a preparatory one. (See Figure 1.) But if all the relevant information from written sources, representations, and excavations may be made: 1. The herald called the names of those taking part. 2. The position of each one at the starting-line was determined by lot. 3. The athletes lined up at the starting-line with their feet close together. 4. They set off together at some word of command, though it is not known precisely what this was. Anyone who started before the word of command had some punishment inflicted on him, apparently corporal."[1]

Early Period (Modern Era) of Starting

PART I (1870–1930)

Information about this time is limited at best. However, the American Sports Publishing Company in New York City, in 1926, published Spalding's Athletic Library, "red cover" series, the Official Track and Field Guide of that year for the National Collegiate Athletic Association (NCAA).[2] While several rules are quite similar to the present day rules and regulations about what happens at the

starting line, there are, however, a number of changes that have taken place in the art of starting over the past six or seven decades. Rule 11 in the 1926 rule book stated, "The starter shall have entire control of the competitors at the marks, except, as above provided for in the duties of The Clerk of Course, and shall be sole judge of the fact as to whether or not any man has gone over his mark."

The rule further went on to say, "He shall be responsible for starting the track events promptly after the men have been assigned their positions by the Clerk of Course. He (the starter) shall also be responsible for unnecessary delay in continuance of said events. He shall record the laps made by each competitor and call them aloud, when tallied, for the benefit of the contestants. He shall give a signal by a pistol shot or bell at the beginning of the last lap in each distance race."

A significant change has taken place regarding false starts. In 1926, any competitor starting before the pistol was fired would be put back one yard; for the second offense, another yard; for the third offense, was disqualified from the event. For indoor races

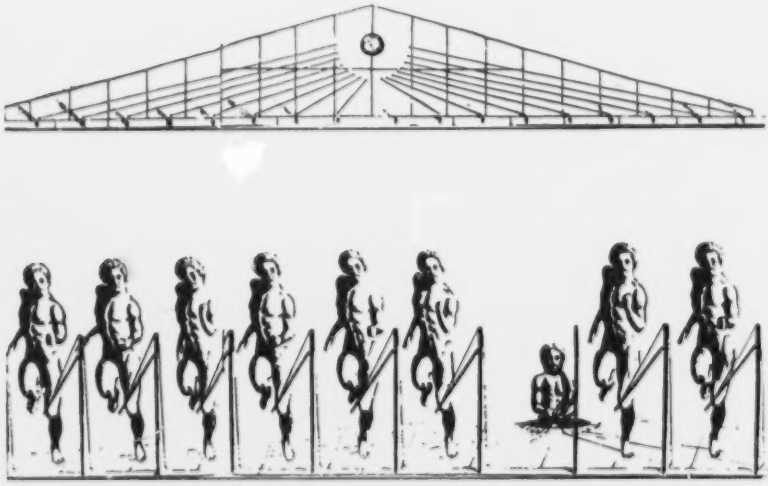


Figure 1. ANCIENT METHOD FOR STARTING FOOT RACES

of less than 50 yards the penalty for starting before the signal was one foot each for the first and second offenses, and for the third offense, disqualification; for indoor races of 50 to 75 yards, the penalty for starting before the signal was two feet each for the first and second offenses, and for the third offense, disqualification. A competitor was judged to have started when any portion of his body touched the ground in front of his mark.

PART II. (1930–PRESENT)

Over the years, several rules regarding starting were changed or amended for the benefit of the runners. In the early 1930s the rule book[3] indicated that the starter could at his discretion, appoint an assistant starter with power of recall in the case of an unfair start. In indoor races the assistant starter could also recall following a "spill" on the first turn. The same rule during that period of time stated, "The digging of holes except at the start of the straightaway shall be discouraged, and The Rules Committee recommends that in case a competitor pursues tactics at the start of a race which are obviously for the purpose of disconcerting an opponent, the starter shall set such a man back the same as though he had made a false start."

The following suggestion in 1932 appeared in rule 21.[3] "It is recommended that for the 1932 season, The International Rules governing the start be tried out in some of the meets in order that the American athletes may become accustomed to the start to be used in the Olympic Games. Under the International Amateur Athletic Federation (I.A.A.F.) Rules, there is no distance penalty for the first false start. The penalty for the second false start is disqualification. A contestant who is pulled off his/her mark by another is not penalized."

N.C.A.A. Rule changes in 1933[4] for track and field for the starter and assistants included a recommendation to have the assistant starter display a large placard indicating the number of laps remaining to be run in a race; to have the assistant starter or some designated official ring a bell in place of firing a pistol shot at the beginning of the last lap of a distance race; to eliminate the penalty for the first false start in hurdle races, but a second false start would result in a disqualification. During 1934,[5] more important changes in N.C.A.A. track and field rules took place. The "International Start" rule was adopted. Distance penalties were eliminated altogether,

and disqualification followed a second false start. When everything is in readiness at the finish line, the starter's commands were to direct the competitors to "Get on your Marks." Then after allowing ample time for them to do so, the starter shall then instruct them to "Get Set." Then when all are set and motionless and an interval of at least two seconds has elapsed, the starter shall discharge the pistol. If any portion of the body of a competitor touches the ground in front of the starting line before the pistol is fired, it shall be considered a false start. The starter shall warn the offender and shall disqualify at a second false start. If, however, the starter fires the pistol and recalls the runners, no penalty shall be inflicted.

In 1936, the Official Handbook of the N.C.A.A.[6] stated that the starter shall always call the competitors up at the first indication of a runner who is about to break. The command to "Stand Up" will then save from a penalty those who may be pulled off their marks. In 1937,[7] comments in the rules regarding starting stated, "The starter usually finds it necessary to penalize only one runner for a false start." By saying, "Stand Up," quickly as soon as any competitor has broken, the starter can usually save from penalty all runners who may be led off by the one who makes the false start. In the event two or more runners break simultaneously the starter has no alternative but to penalize all of them. "The marked line at the start should be about two inches wide and shall be just within the measured distance of the course; it shall have its near edge indentical with the actual starting line."

The Official N.C.A.A. Track and Field Guide of 1950[8] stated, "When starting blocks are available, no holes shall be dug." Then in 1951,[9] the official rules declared that starting blocks or foot supports may be used, not as a material aid to the runner, but to protect the track and to expedite the carrying out of the track program. Hand supports are not allowed. If starting blocks are used, both feet must be in contact with the track while starting. The 1958[10] Track and Field Guide states that the starter shall use a gun with a barrel of not less than .32 caliber and ammunition that will produce adequate flash and smoke. The 1960[11] rule book indicates in Rule 19, under the label of "Starting Signal" that "Get Set" is no longer used; the order by the starters now when all the runners are in readiness is "Set." It was first stated in the 1962[12] official rules, "If in the opinion of the starter a false or unfair start has been made, the starter should recall the competitors by a second

pistol shot. From a theoretical standpoint each runner is entitled to an even and fair start with all of the contestants, and a competent starter will in every instance recall the field if one runner has obtained an unfair advantage over the others."

Starting Methods, Commands, Track Surfaces, and Equipment

STARTING METHODS

In coach Mike Murphy's book entitled, *Athletic Training*,[13] written more than a century ago, it was acknowledged that his superb young athlete at Yale University, Charles H. Sherrill, introduced and used a squat or crouch start to run the dashes in 1887. The crouch start and the position of the sprinters evolved not from efficiency only, but mainly from the flat of the ground, with the runner's nose above the starting line, arm's spread for support, prone position commonly used to start professional racers to keep them from getting a "flying start."

Regarding the crouch start, it is generally believed it was used before the turn of the century by such well-know sprinters as Arthur Duffey and Bernie Wefers. From the crouch start, it was first noted by a sports reporter in his written story that the athlete fell at the start coming out of the blocks, but still managed to get up, recover and win his race.

It is reported that Tom Burke of the Boston Athletic Association was the only squat starter (and the winner) of the 100 meters at the first modern Olympic Games held at Athens, Greece in 1896.

For the record, there exists today photographs that show sprinters of the 1896 Olympics[14] on their marks in which about half of the runners are in a crouched position and the other half are standing for the start. Crouch or bunch starts did not become universally popular until around 1900 or shortly thereafter. The 1890s saw the general use of the crouch start in the dashes; many world-famous stars in the United States are pictured in books that prove this fact such as Arthur Duffey of Georgetown who set the world record in the 100 meters in that decade and always used a crouch or bunch start.[15]

COMMANDS

As noted earlier, the false-start penalty has been changed over the years until today, The Athletic Congress (T.A.C.) and the International Amateur Athletic Federation (I.A.A.F.), follow the second false-start disqualification rule throughout the world at all international contests, while the National Collegiate Athletic Association (NCAA), National Association of Intercollegiate Athletic Association (NCAA), National Association of Intercollegiate Athletics (NAIA), and all high schools in America follow the no false-start rule. . .which means you are disqualified if you commit a false-start.

Very early on, possibly 1875–1900, the starter could not recall the runners. Coach Elliot Noyes,[14] former track coach at Dartmouth University, now retired, recalls that "if you beat the gun, you were home free. If you broke before the gun sounded, you were put out of the race." Through most of the first quarter of the century, you were set back a yard (or a foot, if the race was under one hundred yards) for each "break" up to three. On the fourth break, you were disqualified and were put out of the race.

Under the Amateur Athletic Union (A.A.U.) rules, at least through the 1940s, the starter could not penalize any runner if the starter had to recall the race. It was pointed out that one New York starter had an ongoing feud with a sprinter whom he would have to recall six or more times. . .only to have the runner finally get ahead and beat the gun and establish a meet record with a fastest time. Coach Noyes relates that in the New York and Boston areas, Hugh McGrath and John McHugh started all the big track meets for 25 years during the 1910-1935 or 1940 era. Both were convinced that any attempt to steal a race by beating the gun was tantamount to a capitol crime or a mortal sin. (See Figure 2.)

With all of the time consumed in digging starting holes, re-digging new holes and covering up old holes because of previous false starts, a "green starter" would have a frightful experience. Eventually, however, the number of allowed breaks was reduced and the forced setbacks were eliminated. As a matter of practice, the runners feared the wrath of these old starters so much that the athlete seldom committed a false start.

Coach Noyes[16] went on to say that in early meets, many years ago, the starter always stood behind the field of runners. Actually, it was the best place for the starter to stand because he was able to determine if any runner was trying to move up slowly and catch

the sound of the gun going off without actually coming to a "set" position.

TRACK SURFACES

Running tracks for outdoor meets used to have surfaces of crushed cinder, clay or dirt. The source of the cinders was from clinkers from burnt coal...mainly from large factories that burnt coal to get steam for a source of electricity or from steam locomotives from various railroad lines which provided a supply of cinders from burnt anthrocite. Cinder surfaced tracks drained very well after a heavy rain storm. A properly constructed running track made with a fine cinder surface hardly ever flooded and rarely was a track meet cancelled due to a heavy rain or "cloudburst."

The Eighteenth Olympiad, held in Japan, was the last Olympics to use a track surface made of cinders.

Since then all the running and approach surfaces have been made of synthetic material. Starting blocks that are used on these all-weather tracks either have several small spikes on the bottom of the starting blocks or there are holes drilled into the track surface behind the starting line. This helps to keep the base of the starting blocks firm and in place so that there is no movement of the main structure and therefore the blocks cannot slip or move backwards.

In the late 1920s, starting blocks came into use to preserve the track from the trowel diggings of sprinters trying to dig a foothold (not to assist the runners as was commonly believed). However,

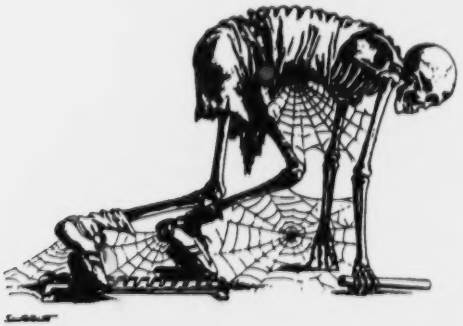


Figure 2.

in today's competition on all-weather, hard surfaced tracks, the opposite is true. . .starting blocks do assist and aid the runner to get a better start.

Starting blocks were first used in or around the 1930s. However, those who used starting blocks were warned that, if they won, their times would not be considered as records. For example, in 1929 at the N.C.A.A. Championships, George Simpson of Ohio State, won the 100 in 9.4 seconds, but his record was disallowed because he used starting blocks. It was not until 1930 that blocks were officially approved and their use made legal by mention in the official N.C.A.A. track and field rule book.[17]

The Intercollegiate Amateur Athletic Association of America (ICAAAA), commonly known as the IC4A, was the most conservative body regarding rules on track. Their rules still say that starting blocks may be used, but only such blocks as are provided by the meet management. The first "hard-surface" track was supposedly built by Percy Beard in Florida during the late '40s. At first, metal tubes were installed into the track surface to receive the long spikes to hold the starting blocks firm and steady. Eventually, short metal spikes were screwed into the plate or bottom of the starting blocks to accomplish this.

EQUIPMENT

The part of the starting block known as the foot plate is where the runner's feet are placed, and is adjustable. These were first used about 1947.

Prior to this, in each sprinter's personal equipment bag was a garden hand trowel to properly prepare starting holes behind the starting line. Later on, in the mid-to-late '30s, sprinters used wooden 4 X 4 blocks to aid in starting. Many track coaches asked the industrial arts teachers at high schools and colleges to have students in their shop classes make these wooden blocks as a class project. These 4 X 4 blocks (See Figure 3) replaced the garden trowel, as starting holes were no longer needed. Holes were drilled through the wooden blocks large enough to allow long metal spikes to be driven through the blocks and into the cinder track surface deep enough so as to hold the wooden starting blocks firmly in place. These wooden 4 X 4 starting blocks were the forerunner to the present day sophisticated starting blocks with a built-in speaker so all runners can equally hear the starter's commands. Some pre-

sent day starting blocks also have an electrical arrangement wherein a small red light on the starting block will go on if the runner commits a false-start by leaving their mark before the starter's pistol sounds. One of the earliest artificial surfaces for the construction of a running track was asphalt, sand, and pieces of ground up rubber from used auto tires. This occurred in the 1950s. Later, Grass-Tex Corporation came out with a combination of sugar cane and asphalt that proved to be successful.

When the starting pistol came into common use is not generally known; however, it was probably very early in the 19th century since pistols were used to signal the beginning of many other events such as the Oklahoma Land Rush, etc. In West Texas, cowboys used to drop their hat and when it touched the ground the race was on.

Earlier, whatever size calibre pistol that was available, from a .22 to a .44, was used to start races. However, since World War II, the .32 calibre starting gun has been the most common pistol used and is the only one that is recognized for a world record.

To start races, some starters used whistles, a bell or gong, a hand clap or hand signals with a handkerchief or a clapper board (blocks of wood slapped together), but these were never used in races of any importance or significance.

Some long road races are often started with a report from a nearby cannon, a rifle or air horn.

In the mid 1800s most races were started by either a voice command of "GO," a waved flag, or a hand clap.

The French instituted the method of holding a flag and dropping it as the starting signal (start au drapeau). This is similar, but not

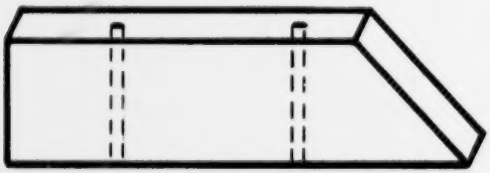


Figure 3. 4 × 4 STARTING BLOCK

precisely the same, as the start of the Indianapolis 500 Motor Race. The Ancient Greeks used an apparatus (See Figure 1) similar to but not as elaborate as the starting gate used in the Kentucky Derby to start horse races.

FIRST SPIKED SHOE

The first spiked shoes were used in 1868 at a track meet arranged by the New York Athletic Club.[17] Of all the athletes who participated, only one had spiked shoes, which he had obtained while on a visit to London. Nobody knew anything about this new type of shoe, but all agreed that if English runners used them they must be good, and they were loaned by the owner to various friends during the course of the evening. The shoes were helpful in winning a prize in every event in which they were used, three firsts, one second and one third being the total for the evening.

CHAPTER 3

Technique of Starting

This chapter on starting techniques provides the novice with skills that are needed in starting a track meet, as well as information for the experienced starter to help in fine tuning his or her own techniques.

PRE-RACE CONFERENCE

A brief conference of runners and the starter should take place approximately two minutes before each race to make sure the rules, procedures, and expectations are clear to each runner. Care should be taken by the starter to keep these explanations brief so as not to distract the runners.

The conference may vary with the experience or level of the runners. For instance, at the junior and high school level it may be necessary to instruct each race right up through the preliminary races to the finals. At the college level, instructions are necessary for the preliminary races, but the runners may need only a short reminder for the final race.

THE COMMANDS: SPRINT RACES (less than 800 meters)

During the brief pre-race conference the starter should review the instructions given by the clerk of the course as to the number qualifying in each heat. The head starter should then instruct the runners as to how the commands will be given, e.g., "I will ask each of you to stand behind your starting blocks and, upon the command 'On (To) Your Marks,' please come forward into your blocks and do what you must. I will know when each of you are ready for the 'Set' command when everyone is comfortable and steady in their starting blocks and are not moving around. Upon

the 'Set' command, please come to a full and complete set position without a slow roll up or hesitation. When I am satisfied no one is moving about and everyone is in control, I will fire the gun. I will not surprise you with a fast gun, but will give you time to get set. So, react to the gun and do not anticipate it to the point that you may disqualify yourself. Are there any questions?"

For the 400 meter race, occasionally the runner(s) will choose to stand for the start instead of using starting blocks. For this situation, the starter can identify these runners at the brief instruction meeting before the race. Following the instructions, the starter should instruct those runners who are standing on what he or she expects them to do. "When I give the 'On (To) Your Marks' command, I want you to just toe the line and relax. It takes the other runners a few moments to get into their starting blocks. When the 'Set' command is given, place yourself into your set position, but you must remain perfectly still and not be moving. Are there any questions?"

Very often the runner standing begins to move or fall because the feet are too close. A wider stance can generally eliminate the problem. This situation is one of the most difficult for the starter. If at all possible, encourage all the runners to use starting blocks.

POSITION OF THE HEAD STARTER

When the all-clear signal from the head timer is given, either by whistle, flag, headphones or arm, the starter should then take his or her position to give the starting commands. The best position is 8 to 10 yards in front of the starting line on either side of the track. (See Figure 4) This can depend on the preference of the starter as to where he or she feels comfortable. If automatic timing is used, the wires may dictate the position.

The starter should be far enough in front that there is good visual contact with every lane, but close enough that the commands can be heard by all the participants without shouting.

In races with staggered starts, such as the 200 and 400 meters, the starter may be in any of several different positions; i.e., behind the field, out in front and off to the side. (See Figure 5) Again, the automatic timing and/or public address system may dictate the position of the starter. It is generally believed the best position of the starter is in front of the runner and off the track with good visual control of all lanes. Ideally, a public address system should

have enough speakers around the initial curve of the track to ensure that all runners hear the commands equally. If no sound system is available, a hand held bullhorn is recommended. If no bullhorn is available, arm signals and whistle commands could be used, particularly for races using a two- or three-turn staggered start.

Unless a track is poorly designed and obstructions force the position, the starter should not be on the track. If the starter has to stand on the track for staggered races with the automatic timing and microphone wires attached, it is important to have assistance in getting the wires off and clear of the inside lanes. (See Figure 5)

VOICE COMMANDS

The importance of voice control of the starter cannot be stressed enough. One of the most important characteristics of being a successful starter is to have a calm voice. The starter's verbal cues should be practiced regularly so the volume or tone never changes from the beginning to the final command. The "Set" command

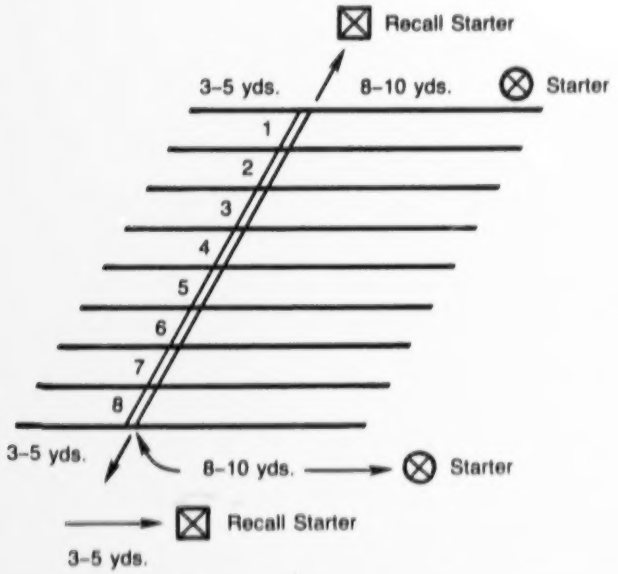


Figure 4. SPRINTS NON-STAGGERED

should never be forcefully spoken or drawn out over a two-second interval. Nothing can be more disconcerting to the runners than to have a starter give the "Set" command starting with a low "s" and finishing with a high "t," or the opposite, a high "s" to a low "t." It should be a crisp normal spoken command. Shouting by the starter at the "Set" command also can disrupt the atmosphere at the starting line.

Care should be taken to maintain the same intonation throughout the commands in order for all to hear and comfortably react. If there seems to be confusion and problems at the starting line, it very well could be due to the variation in vocal commands of the starter.

ARM SIGNALS/WHISTLE STARTS

The arm signals are basically for the benefit of the timers at the finish line, but can also be of assistance to the runners when

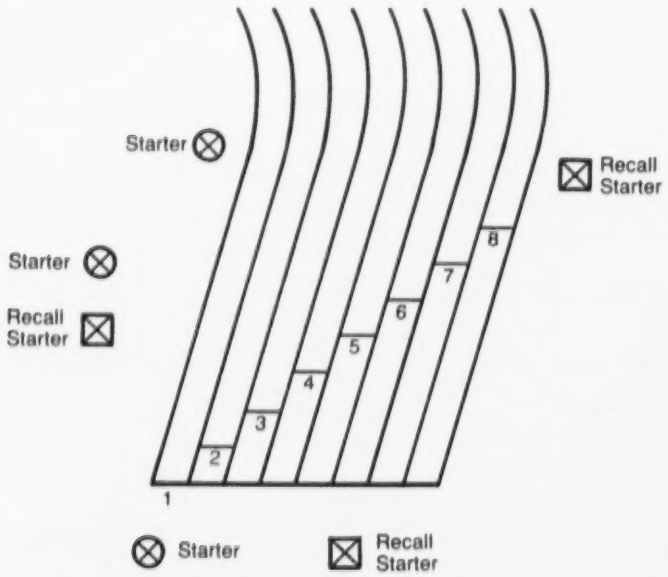


Figure 5. STAGGERED STARTS

it is difficult to hear starting commands because of crowd noise, stormy weather, or when there is a great distance between the starter and the runners. Arm signals also can be beneficial when starting races for deaf athletes.

Before every meet the starter always should communicate with the head timer and finish line coordinator so the finish line officials know what his or her arm signals are and when they can expect the smoke or flash coming from the gun. They should not be surprised or have to guess where the starter's arm will be when the gun is fired. When the arm signals are given they should be deliberate. Some starters prefer the gun arm to be held out horizontally when firing, while others prefer it to be held vertically above the head. The horizontal is the least practical and is best to avoid. A variety of arm motions can be encountered throughout the country. (See Figure 6.)

The official high school rule book instructs starters to place the gun arm vertically when the command "To Your Marks" is given, and with the left arm make a complete 360 degree circle from the side up over and back down to the side. After the athletes are steady and comfortable, the "Set" command is given and at the same time the left arm is brought vertically above the head to join the already vertical gun arm.

This may be adequate for junior and senior high school, but it seems to include a lot of unnecessary arm movements especially if one has arthritis in the shoulders. It is recommended that the less motion, the better. The easiest and least exerting method seems to be to raise the gun arm horizontally with the first command and an instant before the "Set" command is given raise the gun arm vertically. This can easily be followed by the timers, as they know they may relax when the arm is horizontal, but must concentrate when the gun is raised to a vertical position. The left arm can be used, or left relaxed at the side, or rest with the hand on the left hip. One suggestion is to start with both arms raised horizontally and on the first command the left arm drops, then rests at the side or hand on hip and the right arm alone is used thereafter. Whatever system is used, it should be discussed with the starting line officials before the meet begins to avoid any possible confusion.

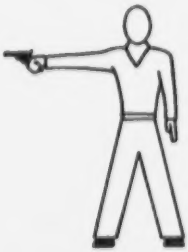
The whole point is to communicate with the finish line in the least distracting way possible, and not to attract attention to yourself.

"On Your Marks"

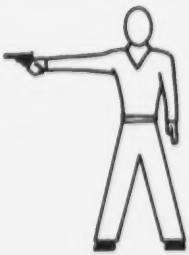
"Set"

"On Your Marks"

"Set"



"On Your Marks"



"Set"

Figure 6. ARM POSITIONS

All attention should be directed to the runners; a lot of unnecessary arm waving can be distracting. For the one command races, it is recommended that the gun arm be at the side and as the "Runners Set/On Your Marks" command is given, raise the gun arm above the head and wait for the moment to fire the gun. Here again, the timers know when the gun arm is vertical they are to concentrate and zero in on the gun.

Generally, the whistle start is used when the starter has to stand a great distance away from the runners because of the stagger (i.e. 3-turn stagger) and when a public address system is not available. In this case the athletes should be instructed exactly how the whistle start process will work.

Several quick short blasts on the whistle alert the athletes to stand ready behind their blocks, followed by one long blast signaling them into their blocks. Arm signals could correspond to the regular procedure used throughout the meet by the starter. The only other possibility would be to raise the left arm vertically on the "Set" whistle blast for visual understanding of runners in the back two or three lanes. Two methods have been employed in whistling the "Set" command. One, a short crisp blast and then when the runners are motionless, the gun is fired. The other method is to make a continual same tone blast and maintain the whistle sound until the gun is fired. Either method is workable. It depends on the preference of the individual starter and what is felt to be most comfortable. Whatever the method, the runners always should be instructed at the pre-race conference. If there is a disturbance and the starter wishes to call the runners "off their marks" and stand up, several quick short blasts on the whistle should be given. When using the whistle start, it is best not to communicate with the finish line with a whistle, but use arm signals.

STARTERS STANCE/MANNERISMS

The starter must be the calming factor at the starting line. One's body language can speak louder than words, therefore one should always portray a person who is in control and who enjoys starting. The starter's stance should be upright and comfortable so that all concentration can be devoted to the runners at the starting line.

Distracting mannerisms like unusual arm movements or vocal commands should be avoided. There is generally enough tension

at the starting line, so the starter should not contribute to it with abnormal distractions, such as:

1. One leg in front of the other, spread wide, knees bent as if the starter is getting into the blocks;
2. Stern, rigid, loud vocal commands;
3. Pointing at each runner during the "on your mark" command;
4. Nervous vocal noises such as constantly clearing the throat;
5. Showing favoritism to certain athletes by putting your arm around their shoulders, wishing luck to certain runners, etc. (This does not mean the starter cannot have friendly chats with runners during pre-race preparations; just avoid doing or saying anything that could be interpreted as showing favoritism.);
6. Unusual vocal mannerisms. (See the section on voice commands.)

REASONS TO HALT THE STARTING PROCESS

At any time throughout the starting process the starter and recall starter may terminate that particular start, and call the runners up, or call them back to the starting line with a second shot from the gun. One of the best philosophies is, if there is *any* doubt that something was not right at the start, recall rather than wait. Ultimately, the starter has sole control over all aspects of the start.

The starter should always be in control and anticipate interferences. If the crowd is in a close proximity to you, ask that they help you out during the commands by remaining quiet, not snapping their cameras, or taking pictures when the runners are in the "set" position. If you are courteous to them, generally they will respond in the same manner.

The following are some possible situations that could cause the starter to call the runners up or bring them back:

1. A runner asking assistance once everyone is in their blocks.—This may be for many reasons such as the blocks are not right or need tightening, sweat or dirt in the eye, shoe untied, an airplane flying overhead, a campus or church bell tolling the hour, or high winds blowing dust and dirt or debris toward the runners. The runner may alert the starter by raising his or her hand or by standing up.

2. Crowd control.—This is a very difficult situation particularly for the straight line starts. A kicked fence, loud or boisterous talk-

ing, a kicked soda can, and cameras are especially common happenings. Again, a courteous request to the audience around the starting area is usually all that is needed.

3. Starting block problems.—Some blocks used by schools are so difficult to set that they sometimes can cause undue delays. Be patient, but be firm in urging quick setting of blocks, especially if there are multi-preliminary races. In some cases, all starting blocks for all athletes are provided by the host school or institution, particularly when pre-determined holes are already in the track in each lane for the starting blocks. Note: It is recommended that in larger meets, such as invitationals, championships, or Olympic trials, only starting blocks provided by the host institution or the meet management be used. No private or individual starting blocks should be allowed.

4. Obstructions on the track.—Occasionally some unauthorized person will be on the track, or crossing it, waste paper will blow on the track right at the instant the "Set" command is given, or a hurdle has not been removed.

5. Pokey athlete.—Once in a while there will be an athlete slow in disrobing or taking too long to get settled into the blocks. With cold or inclement weather, some athletes may wear several layers of warm ups so prior time must be made not to delay the others. An athlete seldom delays a race purposely, and it should be sufficient to call the runners up and caution the individual in a friendly way that he or she should be quicker as the others are having to wait on him or her.

There is not any determined amount of time established between the first command and the "Set" command. It will vary and the starter must be intuitive in feeling when it is the right moment to continue. If it seems too long or one or more are holding up the race, call them up and caution those individual(s).

6. Meet-oriented problems.—It can be a real problem if the announcer decides to talk at the moment of the "Set" command. Special communication between the head starter and the announcer should occur before the meet and not as a confrontation during the meet that could distract the athlete. Other meet-oriented problems

are that the finish line is not ready or needs a few more minutes; the automatic timing isn't ready; or some athlete is in a lane other than the one assigned to them by the clerk of the course. Any number of situations may call for a brief delay and here, the calm character of the starter is important and essential.

7. A Flinch or Buck.—At the peak of the set position, during that momentary hold, a runner may flinch yet not leave his or her position. The "flinch" or "buck" may cause the runner to go slightly forward, then slightly backward. If the gun fires, the other runners may go forward as the one bucking goes backward. This is an unfair start and should be recalled if the gun is fired, or the runners called up if the gun has not fired.

This is solely a subjective decision on the part of the starter. But, realizing the explosive atmosphere at the start, there occasionally will be movement. It is the job of the starter to call the athletes up to a standing position, calmly correct the situation and carry on with another try.

8. Slow Roll Up—At the pre-race conference the athletes should be told on the "Set" command to come immediately to a full and complete set position without a slow roll up or hesitation. If a slow roll up should occur, the runners should be called up immediately and the individual cautioned and reminded of the rule.

In the past, when two false starts were the rule and the disqualification occurred on the second jump, there sometimes were "games" played at the starting line. Having a 50-50 chance, the runner would try to beat the gun. Delaying rising by just a fraction on the "Set" command, the runner could roll into the start and never come to a still set position. If the starter was not aware of these "games," all kinds of super times could be recorded. Currently, with the present no false start rule used by the National Collegiate Athletic Association, National Association of Intercollegiate Athletics, and The National Federation of State High School Associations, the athletes now work with and not against the starter.

9. Wrong starting line.—On a staggered start it may be that the starting blocks are placed on the wrong stagger line in one or all of the lanes. This is why the starter and recall starter should always review the track markings before the meet begins to know the color

coding of various starts. On many 440 yard tracks the markings are still there for the 100 yard dash, the 220 yard (furlong) dash, the 440 yard run, etc. Also painted on these 440 yard tracks are the starting lines for the 100 meters, 200 meters, etc. The starter, recall starter and the clerk of the course all should be aware of the proper starting lines.

10. Bad shell/Misfire.—If the gun malfunctions, or a shell is a "dud," the runners should be called up, the problem corrected, and the starting commands repeated. It has been known, but rarely admitted, that a misfire was due to the starter forgetting to load the chamber. This generally occurs only once in a career and hopefully is not during the finals of the 100 meter dash at a big meet! It is a must that the starter replace a spent shell immediately after each start to assure that the pistol is always fully loaded.

11. Stumble.—If a runner comes out of the blocks awkwardly and stumbles during the first or second step, the runners should be recalled as it was not a fair start. This might occur because the block slipped or the runner caught a spike on the track, or some other cognizant reason. Again, this is a subjective judgement of the starter or recall starter.

12. Slipped Blocks.—This can and does happen easily and is one of the key responsibilities of the recall starters. Two ways of detecting a slipped block will be by sound and/or a stumble with the first or second step of the start. It can be very disconcerting to the runner and the best thing is to reassure the runner, allow time to reset the blocks and a moment to re-establish his or her concentration and try the start again. Blocks that have wing nuts or hand tighteners are especially notorious for slipping. The recall starter may need to check each set if the foot plates continue to move, or a person may need to stand on the back of the block if they are not properly anchored. If block holders are necessary, it is important to instruct each of them to remain perfectly still during the starting procedures. Also caution them to let the runner get into the blocks before they step up to hold the blocks. Sometimes the runners will kick backwards while stretching or getting into the blocks and could easily spike a holder who is standing too close.

13. Inclement Weather/Outside Noises.—Occasionally there are reasons to halt the starting process because of Mother Nature. This might happen when a terrific wind blows in or the skies open up and a tremendous downpour occurs. Other uncontrolled interferences might be an airplane circling overhead just at that critical moment of the starting process, a locomotive nearby blasting its whistle, or a clock nearby tolling the hour. If lightning occurs it might be best to delay, especially if a long race is ready to be run.

14. Portable radios.—Sometimes athletes and spectators may be playing their portable radios so loud that it interferes with the starting line communication. Generally a courteous request is all that is needed.

These and other reasons may occur and the best thing is to be flexible and wait out the situation before continuing on with the race.

THE COMMANDS: MIDDLE DISTANCE/DISTANCE RACES (800 meters or more)

During the pre-race conference for the distance races, careful instructions should be given to make sure the runners know exactly what is expected of them. If the runners are in staggered lanes or alleys, the point where the competitors can break for the pole or cut line should be pointed out. The runners should be reminded to be at least one and one-half to two running strides ahead of the runner they are cutting in on or attempting to pass so as not to interfere with the runners to their left.

With a "teardrop" or "waterfall" start, as used in the steeplechase and other long distance races, the runners can immediately break for the pole so a caution should be given not to interfere with the runners to their left. If, due to contact with another runner, a fall should occur during the first 100 meters of a waterfall start, the runners should be recalled and the race restarted. This fall or collision should be the result of being tripped, jostled or pushed, and not falling on their own. A recall starter should be positioned around the first curve or down the track to assist in judging if a fall occurs.

The runners are then instructed on how the commands will be given. "We will use the 'International Start' or walk up approach. I will ask you to line up approximately 3 meters behind the starting line and on the command 'Runners Set' or 'On Your Marks', please

come forward quickly to the starting line but not touching it and remain motionless. When everyone is steady and in control, the gun will be fired. Please look down and make certain your toe is not touching the starting line. Are there any questions?"

This approach is becoming more and more popular because of the lesser chance of someone losing their balance while waiting for the gun and creating a false start. The momentary walk up approach is a calming factor. The runners are in total control and rocking, rolling, and falling are very minimal. It seems to calm the jitters, as opposed to standing on the line, dropping to the set position, and becoming unsteady while waiting for the gun. There seems to be less chance of jumping by using the walk up approach, and this method is recommended for all races, 800 meters and above.

POSITION OF THE HEAD STARTER

When the all clear or ready signal is given from the finish line, the starter should then take his or her position to give the starting commands for a waterfall start. The best position is standing off the track six to eight meters in front of the starting line on either side of the track. This can depend on the preference of the starter. If automatic timing is used, the wires may determine the position of the starter. The starter should be far enough in front so good visual contact is possible with every lane, but close enough so the commands can be heard without shouting. (See Figure 7.) In a staggered race, such as a one-turn stagger for the 800 meters, the starter may be in one of several different positions. The best position is standing in front of the runners with good visibility of each lane. Ideally, a public address system or a bullhorn should be used to amplify the commands. Some starters prefer to stand on the track in lane one or two on staggered starts while others prefer to be off the track. This is an individual preference depending on what feels most comfortable to the starter. (See Figure 7)

VOICE COMMANDS

Care should be taken to give the "one command" just as calmly as with sprint commands. The voice should be soft yet strong enough to be heard by each runner. Never should the starter have to shout the commands. This disrupts the runner's concentration as well as straining the vocal chords of the starter.

The "one command" start will vary. It can be "Runners Set,"

"On Your Marks," "Walkers Set," or "Wheelers Set." Walkers are very sensitive that they are walkers, not runners, and should be addressed as such. Likewise, wheelchair athletes are not runners and prefer to be addressed as wheelers.

ARM SIGNALS

The arm position for races of 800 meters and over generally starts with the gun arm to the side, and on the command the gun is raised above the head. When the runners are motionless and in control, the gun is fired.

The whistle should be used to signal the timers and other personnel at the finish line just before the command is given. A whistle start is seldom used for commands for stand up starts.

STARTER'S STANCE/MANNERISMS

Starter's stance and mannerisms should be the same for distance races as for sprints. Nothing in the body stance, arm movements, or voice commands should distract the runners as they approach the starting line.

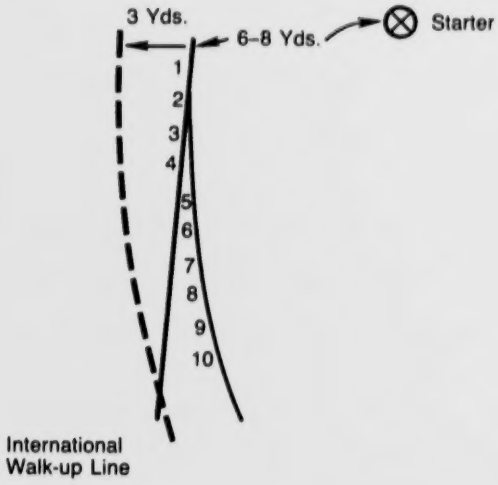


Figure 7. STANDING WATERFALL STARTS

REASONS TO HALT THE STARTING PROCESS

Several situations can arise to cause the halting of the starting process for stand up races:

1. Runner(s) are not steady at the line and are moving around.—The start should be halted if a runner is off balance or not in control and is falling forward. If this is detected, the runners should be called up off their marks by the command "Stand Up" and given another try. In any of the races that the starter calls up, a simple explanation should be given such as "Lane three, you were a little unstable or you were not steady." This generally is all that is necessary and is appreciated by the runners.

2. A runner falls during the first 100 meters from a waterfall start.—In this case the starter should have one or more recall starters spaced down or around the track to watch for this possibility. Again, the fall must have been caused by contact with another runner, colliding, or being tripped or pushed as the runners converge into the inside lane. A runner falling on his or her own would not justify a recall.

3. Stumble.—If a runner should stumble on the first step or two, the race should be brought back and started again. This situation is possible on a wet, slick track, or often on an indoor board track.

THE RECALL STARTER

The recall or assistant starter is to assist the starter for every race. The recall starter has the authority to ensure a fair start for every race. He or she can recall the competitors by firing a gun or calling the runners up if it is felt the start was unfair or something was not right at the line.

The head starter and recall starter(s) should work closely together to see that each start is fair and equitable. There should be constant communication between them and, if ever a recall gun is fired by either or both of the starters, there should be an immediate conference to discuss the situation.

The infraction is generally obvious, but occasionally there may be a discrepancy. In this case, following a discussion, the head starter must decide what follows. Generally, if there is a discrepan-

cy, the start may be rerun without a disqualification. The final decision rests with the head starter, but he or she should always consider the opinion of the recall starter.

RESPONSIBILITIES OF RECALL STARTER

Although the primary responsibility is to determine if an illegal start has occurred, the recall starter works carefully in assisting the head starter throughout the meet. This may involve a lot of busy work and "go-fer" work. At the starting line the recall starter should see that all runners are comfortable with their blocks and answer any questions about the race. He or she also may need to assist the hurdle crew by helping with the setting and lining up or taking down the first couple flights of hurdles, to help keep the meet on time.

There are many things that the recall starter must watch for:

1. Block slipping.—The recall starter is in the best position to detect a block slipping as the runners fire out of their blocks on the gun. This generally is detected by sound and/or a stumble on the first or second step.

2. Outside noises.—Often the crowd is right on top of the sprint starts, and the recall starter must be attentive to such noises as talking, camera clicking, small children laughing or crying, etc., that can distract the runners. Generally a courteous request is all that is needed to those near the starting line.

3. Hands behind starting line.—As the runners are settling into position for the "Set" command, the recall starter can quickly check their hands to make sure they are up to, but not touching the line.

4. Unforeseen situations.—Such unforeseen things as sweat in the eyes of a runner, a bug flying into the runner's face, a piece of paper blowing in front of a runner, or a signal from the finish line that something is wrong, should result in calling the runners off their marks or to stand up.

5. In all the above situations, the runners should be called up "off their marks" and the situation corrected.

The best rule of thumb is common sense. If someone is at a disadvantage, the race should be brought back or called up. If there is any doubt, try it again. Just because a recall gun is fired does not automatically mean that someone has to be disqualified.

The recall starter often is given the responsibility of signaling the gun lap for distance races if the ringing of a bell near the finish line is not used. This should be determined with the Head Finish Judge before the meet begins.

Ideally, someone else is designated to fire a pistol to signal the gun lap or, preferably, to ring a bell. This allows the recall starter to devote his or her attention to the responsibilities at the starting line.

POSITION OF THE RECALL STARTER

On flat starts such as the 60, 100 meter or high hurdles, the recall starter can be placed basically at one of three different positions: 1) behind the runners; 2) looking down the starting line; or 3) a couple of yards in front on the opposite side from the head starter. If there is only one recall starter, the best position is on the opposite side of the track from the starter, looking down the starting line. This is a decision to be made between the starters before the meet. If more than one recall starter is used, then the other positions can be decided upon before the meet. (See Figure 4.)

One last situation is recommended, if the facilities are such that a fence, wall, or some sort of barrier is very close to the outside lane. This crowds the space for the recall starter to stand and the outside lane is especially difficult for the recall starter to see. One suggestion is to have the recall starter stand on the opposite side with his or her back to the fence to watch lanes one through five, and the opposite recall starter concentrate on lanes four through eight. By crisscrossing, better visibility can occur. On staggered starts with the head starter in front, the recall starter should watch primarily the back five of the field and the head starter the front five of the field overlapping in the middle lanes.

As an example, in a full flight of eight lanes in the 200 meter dash, the back or recall starter will observe lanes 1 through 5, and the head starter in front will watch competitors in lanes 4 thru 8. In this arrangement there is overlapping responsibility in the center lanes of the track.

The total race is still the responsibility of the head starter, but he or she can direct attention more to the front five lanes. This

is especially essential in races staggered around the curve. It is ideal to have two or three recall starters so that one can be placed in front, one at the back, and a third recall starter to the side observing the middle lanes. (See Figure 5.)

The position for the recall starter on a waterfall start into a curve for races such as the 3,000 meters, 3,000 meter steeplechase, 5,000 meter and the 10,000 race, is half to three quarters of the distance around the first curve to recall in case there should be a fall from a collision. For standing races into a straightaway, the recall starters simply space themselves down the track to observe the first 100 meters. The starter should observe and follow the runners for the first 20 to 30 meters, and then the recall starters can pick them up for the rest of the distance. (See Figures 8 & 9.)

It is recommended that the recall starter leave his or her gun uncocked and not place a finger on the trigger. The finger, remaining on the outside of the gun, can easily and quickly slip to the trigger when needed. This eliminates the possibility of firing before the head starter does or firing as a reaction to the head starter's

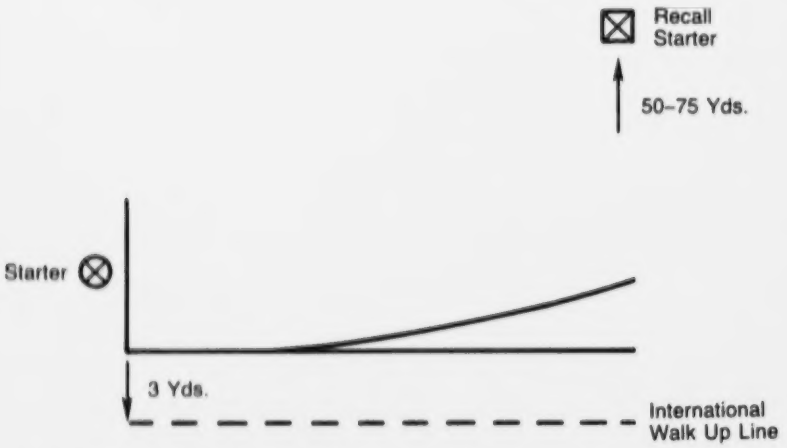


Figure 8. STANDING WATERFALL STARTS STRAIGHT-A-WAY

shot. Most recall starters have either done this or have seen it occur. The best thing to do is forget the error and not make an unnecessary scene upsetting the runners.

This emphasizes the need for close communications between the head starter and the recall starter. They must work very closely, having a common cause and trust in one another. Communication before, during and after the meet should be an ongoing thing.

ARM SIGNALS

Arm signals between the recall starter and the head starter are essential in communicating nonverbally during the start. Two methods are most commonly used. In the first method, the recall starter raises the left arm when the first command is given. When everyone is settled in for the "Set" command, the arm is lowered slowly notifying the head starter that "all is clear." (See Figure 10.) This is especially beneficial on staggered starts when the recall starter is a great distance away.

The second method is much less conspicuous, and was used by the starting crew for the 1984 Olympics. The recall starters stood

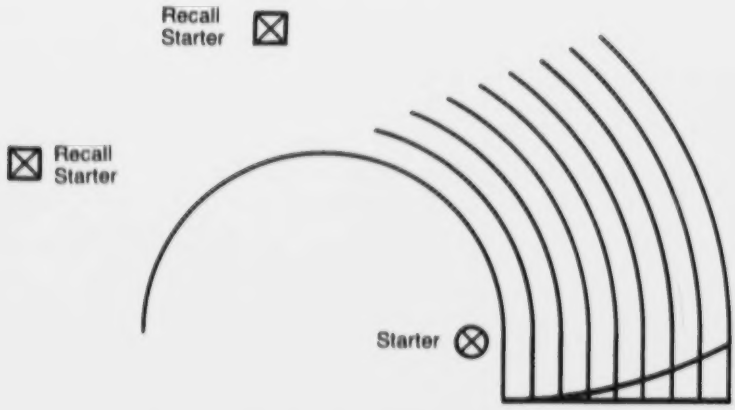


Figure 9. STANDING WATERFALL STARTS INTO A CURVE

with their hands down beside their bodies and a quick turn of the open palm of the left hand signaled the "all clear" to the head starter.

Either method works well and each head starter and his or her recall starter(s) should decide what is best and appropriate for them at that particular meet.

Other Situations

SIGNALS FOR RELAYS

At ground level it often is very difficult for the head starter to know when the relay exchange zones are clear. One recommendation is to have an official stand high in the stadium near the start or in the tower above the finish line, with a red/white flag. When the official sees three white flags at the exchange zones, this person signals with a white flag to the head starter. This means the head starter cues off one official rather than three different officials who are so far away that they often cannot be seen.

"On Your Marks"

"Set"

Figure 10. ARM POSITION OF RECALL STARTER

HEADPHONES

In many high school, major college, and university meets and open meets, headphones are becoming more popular as a way to communicate between the starting line and the finish line. They eliminate a lot of unnecessary delay and keep the communication lines open. Now, instead of the head starter standing and continuing to blow a whistle, he or she can simply push a button and ask if the officials are ready or "what is the delay?"

It works best if the head starter, recall starter and head finish judge are equipped with headphones on the same frequency. Also, it would be extremely helpful if the announcer were on the same frequencey, so as not to make announcements, give results of a previous event, or give reporting calls for upcoming events once the starting procedure has begun for a race.

EAR PROTECTION

It is recommended that the starter protect his or her ears from the sound of the gun blast. Race after race, meet after meet, year after year can only take its toll on the hearing process. Good ear plugs are recommended over cotton or inexpensive ones.

Good ear plugs should be comfortable to the ear and still allow normal conversation. They should not block out all sound as it is essential that the starter be able to hear any outside noises that might distract the athletes during the starting process.

Some starters cover their ear nearest the gun with that shoulder as the arm and gun are brought up to a vertical position. Others may cover their opposite ear with their finger. These methods of protecting the ear are not recommended since they reduce the possibility of hearing outside noises.

Sound exceeding 85 decibles should have mandatory ear protection. This is according to ballistic expert Trooper Junk of the Washington State Highway Patrol. Anything above 85 is operating in the danger zone. Figure 11 shows the results of a field test using different caliber starting guns registering on a *Sound Level Meter**.

DROPPED BATON AT START

Occasionally a runner may leave or drop the baton at the start. This is just an unfortunate and embarrassing situation and does not result in a recall. If a runner stumbles on the first step and drops the baton at the same time, and if the stumble is seen, then

a recall gun should be fired because it was an unfair start, disregarding the baton entirely. The baton is the runner's responsibility.

MECHANICS OF FIRING THE GUN

The actual firing of the gun is an essential part of the starter's trade. It should be pointed out to the beginning starter how and when the gun is to be fired. The starter should be very familiar with his or her gun and know the feel of it. It should feel comfortable and have a fairly tight trigger. A fast or hair trigger should be avoided to prevent ever firing a "fast gun" following the "Set" command.

As the "On (To) Your Marks" command is given, the gun should be cocked and the finger should close around the trigger taking out any play. At this point the gun may be fired or the trigger let up to call the runners off their marks. This is not as easy when a hair trigger exists, because it is harder to let up without firing.

By taking the play out of the trigger, the starter can decide to fire or not. Jerking the trigger when firing should be avoided because the hand moves and can be distracting to the timers. The gun hand should be still and solid throughout the process.

The "hold," amounts to the length of time between the "Set" command and the firing of the gun. Any hold of less than 1.5 seconds does not allow the runners time to get into their solid and steady

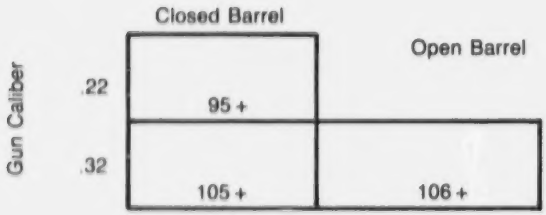


Figure 11. DECIBLE METER READINGS

set position. This can lead to jumping on the part of the runners and confusion at the starting line.

Holds between 1.7 and 2.0 seconds generally are adequate to determine if each runner is set and in control. Holds over 2.0 seconds for the sprint races may need to be called up as it is difficult for the athletes to be held too long. Supporting their body weight on their arms and/or fingers for longer than two seconds can become difficult for many athletes, causing a tendency for the arms to shake and increasing the probability of a break from the starting line.

Each race will vary as to how long it takes for everyone to be still and motionless. Sometimes it appears that an axle runs through all of the runners and everyone comes up together. At that instant, if they are solid, the gun should be fired; whereas if there is unsteadiness, the hold may be slightly longer to allow everyone to settle down. Again, if it takes too long for the runners to become steady, they should be called off their marks and the race restarted.

The starter should practice the commands regularly. It might be done in front of a mirror, while driving, or while sitting at home. It is also a good practice to have someone with a stopwatch time your hold intervals between the "Set" command and the gun. This is excellent feedback immediately after the fact. The importance of developing a trust between the starter and the athletes has been mentioned. If at the time of instructions the runners are told they will not get a quick gun, but will be given time to get set, then that certainly should be the case. To tell the athletes this and then fire a quick gun can very quickly break that trust and the result generally is confusion and frustration at the starting line.

The starter must be cognizant to maintain the same hold for the "Set" command especially following a false start. The tendency the second time is to fire the gun quicker and not allow time for the athletes to reach their full set position. A good starter will remain consistant throughout all the races.

CARE FOR YOUR GUN

A good starter's pistol should last a lifetime if properly cared for and kept clean. It should be cleaned as soon as possible following every use. This allows the mechanism to work freely and avoid the tendency of an uncleaned pistol to gum-up and possibly freeze.

Cleaning the gun is especially important following a meet in which

it has rained. Rust is the main enemy to avoid besides the carbon build-up. Consistent use of a good gun oil and cleaning kit will help prolong the life of the pistol and maintain its reliability.

MOVING EQUIPMENT

Very often the starter not only is in charge of starting the races, but also must help to move the blocks from site to site, move and set up the hurdles, and possibly serve as the clerk of the course.

One of the best recommendations is to avoid being given the responsibility of referee. In most cases the starter has plenty to do without having to make rule decisions in other events.

The other duties are all part of the job. However, as the meets get bigger, extra jobs will be assumed by others. Ultimately, the time schedule of the meet is the responsibility of the head starter working closely with the clerk of the course. The fewer delays, the better.

HONEST EFFORT OF THE RUNNER

Occasionally a situation may arise when an athlete may jump and get disqualified. The starter may be asked to determine whether the athlete made an honest effort or intentionally jumped. This is a subjective judgement on the part of the starter and recall starter. Generally the starter would not pursue the running referee to report the situation, but if approached, should be prepared to report his or her observations concerning that particular start.

USE OF SAME STARTER THROUGHOUT

If more than one starter is used throughout a track meet it is essential that the same starter take the same group of runners from the preliminaries to the finals. Changing starters within the same group of runners is not fair to the athletes as they become familiar with one starter's voice commands, and a change could create problems at the starting line, especially the sprints and hurdles.

SUMMARY

The head starter has a myriad of responsibilities in performing his or her duties. Needless to say, it is more than just firing the gun.

One of the biggest differences between a good starter and a poor starter is the seriousness in which the job is handled and the amount of time and effort spent in preparing for a meet.

The starter must communicate with many officials before a meet, including the recall starter, head timer, announcer, and clerk of the course. Careful study of the track facilities and of it's markings should be done so that there are no surprises to delay or hold up the meet and disrupt the concentration of the runners.

To improve in any job, one must practice and always strive for perfection. Observing other starters is very helpful in learning technique and skill. Take time to practice the starting commands along with using a stopwatch to the point where the holds become natural. Stand in front of a full length mirror to observe your body language and arm signals. Finally, have someone occasionally time your holds during a meet to see how you are doing on your hold intervals.

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APPENDIX A

Head Starter's Checklist

_____ Arrive an hour before each meet is to commence.

_____ Look over the facility—study the color codes for starting line, off sets, breaking points, etc.

_____ Anticipate problems—improper markings, no batons, no finish string, lap counter, starting blocks, etc.

_____ Synchronize watch with meet director and/or head timer.

_____ Discuss hand and arm signals to be used with finish judge and announcer.

_____ Obtain time schedule from meet director or clerk of the course.

_____ Check for obstructions between starting position and timers.

_____ From the 200 meter area, is the background too light so that the timers cannot see the smoke (may need to relocate the starting position).

_____ Alert head timer as to the type of arm signals to be used when starting races.

_____ Check blocks and hurdles. Are they correct and does the starter have to move them or are there helpers?

_____ If a public address system is to be used, check it out to make sure all speakers are working and each lane can hear clearly.

_____ Establish starter and recall starter positions for straight and staggered races.

_____ Determine how the "all clear" will be received when starting relay races to know the exchange zones are ready.

_____ If automatic timing is being used, check out the system with the operator before the meet begins.

_____ Discuss duties and responsibilities with the recall starter(s).

_____ Pick up shells from host coach. Always check to make sure the shells are black powder and not smokeless.

_____ Do not discard used shells in the track area. Keep them on your person or in a container.

_____ If using head phones, check to make sure they are working.

APPENDIX B

Recall Starter's Checklist

_____ Arrive early with head starter before each meet.

_____ Look over the facility and study the color codes for the starting, break point, etc.

_____ Discuss with the head starter the conduct and signals to be used throughout the meet.

_____ Obtain time schedule.

_____ Identify position head starter wishes recall starter to stand.

_____ Assist at starting line with starting blocks, answering questions, checking equipment such as batons, numbers, shoe strings, etc.

_____ It is advisable never to have a finger on the trigger and the gun cocked. It is very easy to anticipate and fire before the head starter.

_____ When runners are in their blocks, quickly check hands and see if there are any problems. If a problem, quickly notify the head starter to call the runners up and correct the problem.

_____ Be especially alert for such things as outside noises that could causes a break at the "Set" command, for blocks slipping, or a stumble at the first step.

_____ On a staggered start, whether in front or in the back, use some signal to head starter when "all is ready" or if there is a problem.

_____ Assist with automatic timing, if used.

_____ Have either a .22 and a .32 caliber gun available for recalling.

_____ Establish whether the recall starter is responsible for firing the gun lap or ringing a bell on long distance races (800 meter and over).

APPENDIX C

Starter and Recall Starter's Equipment

_____ .32 caliber gun for starting—may be a closed or open barrel pistol. A .22 caliber gun may be used indoors.

_____ Gun cleaning kit. Care should always be taken to clean the gun immediately following a track meet. A well maintained gun will last a lifetime.

_____ Whistle on a lanyard (spare).

_____ Complete rain gear plus galoshes for foul weather.

_____ Red blazer and/or red sweater.

_____ Bright fluorescent arm band.

_____ Comfortable shoes.

_____ Duffle bag.

_____ Hat—generally white.

_____ Extra baton.

_____ Current rule book (H.S., NCAA, TAC, IAAF), Case Book, Officials Manual.

_____ Pencil and paper (3X5 card for time schedule).

_____ Safety pins (to attach numbers on uniforms).

_____ Extra black powder shells.

_____ A hand microphone (bullhorn).

_____ Hand towel.

_____ Watch set with meet time schedule.

_____ Extra sizes of track spikes and spike wrench.

_____ Small knife, scissors.

_____ Scotch tape.

_____ Clean handkerchief and clean saline solution for contact lens.

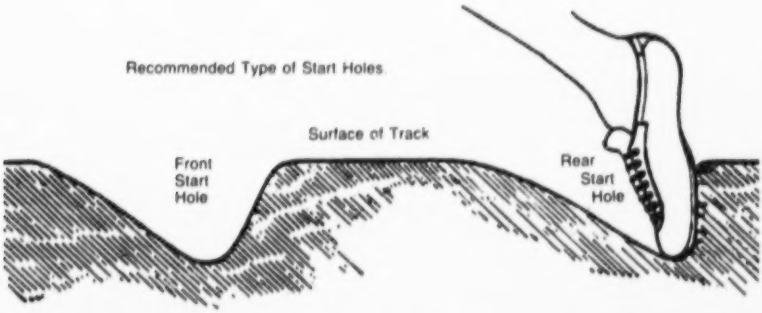
_____ Ear plugs.

_____ Nail clipper.

APPENDIX D

Starting Holes

With a trowel or similar instrument the forward hole should be carefully constructed deep enough to provide a firm seat for the ball of the foot. It is made in two ways—with a perpendicular or straight up-and-down back wall and with a semi-slant. The latter is more generally used.



Perpendicular—or nearly so—back wall of rear hole. Both holes should be of sufficient depth to allow a firm contact of ball of foot and firm grip of all spikes. The advantage of the perpendicular wall will be more apparent to the runner when he takes the "Get set" position rather than on the initial one of taking his marks.

The forward hole is generally placed about five inches behind the starting line. This will vary according to the type of start used by the sprinter. The rear hole should be slightly to the right of the forward hole and sufficiently to the rear to allow an easy, comfortable leg spread.

In assuming a correct "Get set" position, there is always a tendency to draw the rear heel forward, because the upper part of the athlete's body should lean over the start line. When the back wall is inclined too much, as shown above, in order to get purchase or drive-out impetus, the foot is obliged to go back to the dotted shoe position before the start can be made, thereby adding an extra movement, with consequent lost time.

Hahn, Archie, "How To Sprint," Spalding Athletic Library, American Sports Publishing Company, p.77, 1929.

APPENDIX E

Comparisons of Time and Distance for Meters and Yards

TRACK EVENTS

Comparisons of Time and Distance for Meters and Yards
1 Meter = 39.37 Inches

1. **100 yards** = 91.44 meters
   100 meters = 109.36 yards

If a time is given for 100 meters, to convert the time to one for 100 yards *deduct* .9 of a second.

2. **120 yards** = 109.73 meters
   110 meters = 120.73 yards

If a record has been made at the metric distance the time given will also be the record for yards, in this case only.

3. **220 yards** = 201.17 meters
   200 meters = 218.72 yards

In this case, if a time is recorded at the metric distance .1 of a second should be added to the time to make it comparable to yards.

4. **440 yards** = 402.34 meters
   400 meters = 437.44 yards

To calculate the time for the quarter mile when only the equivalent metric time is given add .3 of a second.

5. **880 yards** = 804.67 meters
   800 meters = 874.89 yards

To make the metric distance time comparable to the time for the half mile *add* .7 of a second.

6. **1 mile (1,760 yards)** = 1,609.3 meters
   1,500 meters = 1,640.4 yards

To calculate what a mile time would be when only the time for 1,500 meters is given *add* 18 seconds.

7. **2 miles (3,520 yards)** = 3,218.6 meters
   3,000 meters = 3,280.6 yards

To calculate what a 2-mile time would be (given the time for 3,000 meters) *add* 38 seconds.

8. **3 miles (5,280 yards** = 4,828 meters
   5,000 meters = 3 miles 188.1 yards

To calculate a time for three miles (when a 5,000 meters race time is given) *subtract* 28 seconds.

9. **6 miles (10,560 yards** = 9,656.1 meters
   10,000 meters = 6 miles 376.1 yards

To calculate a time for six miles (given the time for 10,000 meters) *subtract* 1 minute.

10. Marathon = 26 miles 385 yards = 49,185 meters.

APPENDIX F

Converting Feet to Meters

FEET	METERS	FEET	METERS	FEET	METERS	FEET	METERS
1	.3048	28	8.5344	55	16.764	82	24.9936
2	.6096	29	8.8392	56	17.0688	83	25.2984
3	.9144	30	9.144	57	17.3736	84	25.6032
4	1.2192	31	9.4488	58	17.6784	85	25.908
5	1.524	32	9.7536	59	17.9832	86	26.2128
6	1.8288	33	10.0584	60	18.288	87	26.5176
7	2.1336	34	10.3632	61	18.5928	88	26.8224
8	2.4384	35	10.668	62	18.8976	89	27.1272
9	2.7432	36	10.9728	63	19.2024	90	27.432
10	3.048	37	11.2776	64	19.5072	91	27.7368
11	3.3528	38	11.5824	65	19.812	92	28.0416
12	3.6576	39	11.8872	66	20.1168	93	28.3464
13	3.9624	40	12.192	67	20.4216	94	28.6512
14	4.2672	41	12.4968	68	20.7264	95	28.956
15	4.572	42	12.8016	69	21.0312	96	29.2608
16	4.8768	43	13.1064	70	21.336	97	29.5656
17	5.1816	44	13.4112	71	21.6408	98	29.8704
18	5.4864	45	13.716	72	21.9456	99	30.1752
19	5.7912	46	14.0208	73	22.2504	100	30.48
20	6.096	47	14.3256	74	22.5552	101	30.7848
21	6.4008	48	14.6304	75	22.86	102	31.0896
22	6.7056	49	14.9352	76	23.1648	103	31.3944
23	7.0104	50	15.24	77	23.4696	104	31.6992
24	7.3152	51	15.5448	78	23.7744	105	32.004
25	7.62	52	15.8496	79	24.0792	106	32.3088
26	7.9248	53	16.1544	80	24.384	107	32.6136
27	8.2296	54	16.4592	81	24.6888	108	32.9184

FEET	METERS	FEET	METERS	FEET	METERS	FEET	METERS
109	33.2232	149	45.4152	189	57.6073	229	69.7993
110	33.528	150	45.72	190	57.9121	230	70.1041
111	33.8328	151	46.0248	191	58.2169	231	70.4089
112	34.1376	152	46.3296	192	58.5217	232	70.7137
113	34.4424	153	46.6344	193	58.8265	233	71.0185
114	34.7472	154	46.9392	194	59.1313	234	71.3233
115	35.052	155	47.244	195	59.4361	235	71.6281
116	35.3568	156	47.5488	196	59.7409	236	71.9329
117	35.6616	157	47.8536	197	60.0457	237	72.2377
118	35.9664	158	48.1584	198	60.3505	238	72.5425
119	36.2712	159	48.4632	199	60.6553	239	72.8473
120	36.576	160	48.768	200	60.9601	240	73.1521
121	36.8808	161	49.0728	201	61.2649	241	73.4569
122	37.1856	162	49.3776	202	61.5697	242	73.7617
123	37.4904	163	49.6824	203	61.8745	243	74.0665
124	37.7952	164	49.9872	204	62.1793	244	74.3713
125	38.10	165	50.292	205	62.4841	245	74.6761
126	38.4048	166	50.5968	206	62.7889	246	74.9809
127	38.7096	167	50.9016	207	63.0937	247	75.2857
128	39.0144	168	51.2064	208	63.3985	248	75.5905
129	39.3192	169	51.5112	209	63.7033	249	75.8953
130	39.624	170	51.8161	210	64.0081	250	76.2001
131	39.9288	171	52.1209	211	64.3129	251	76.5049
132	40.2336	172	52.4257	212	64.6177	252	76.8097
133	40.5384	173	52.7305	213	64.9225	253	77.1145
134	40.8432	174	53.0353	214	65.2273	254	77.4193
135	41.148	175	53.3401	215	65.5321	255	77.7241
136	41.4528	176	53.6449	216	65.8369	256	78.0289
137	41.7576	177	53.9497	217	66.1417	257	78.3337
138	42.0624	178	54.2545	218	66.4465	258	78.6385
139	42.3672	179	54.5593	219	66.7513	259	78.9433
140	42.672	180	54.8641	220	67.0561	260	79.2481
141	42.9768	181	55.1689	221	67.3609	261	79.5529
142	43.2816	182	55.4737	222	67.6657	262	79.8577
143	43.5864	183	55.7785	223	67.9705	263	80.1625
144	43.8912	184	56.0833	224	68.2753	264	80.4673
145	44.196	185	56.3881	225	68.5801	265	80.7721
146	44.5008	186	56.6929	226	68.8849	266	81.0769
147	44.8056	187	56.9977	227	69.1897		
148	45.1104	188	57.3025	228	69.4945		

INCHES	METERS	INCHES	METERS	INCHES	METERS
1	.0254	10	.254	1/16	.0015875
2	.0508	11	.2794	3/16	.0047625
3	.0762	1/8	.003175	5/16	.0079375
4	.1016	1/4	.00635	7/16	.0111125
5	.127	3/8	.009525	9/16	.0142875
6	.1524	1/2	.0127	11/16	.0174625
7	.1778	5/8	.015875	13/16	.0206375
8	.2032	3/4	.01905	15/16	.0238125
9	.2286	7/8	.022225		

TRACK STARTER'S GUIDE

by Charles H. Dailey, Sc.D.
and Kelly D. Rankin, Ed.D.

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